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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,301	06/27/2001	Mark W. Davis	INXT 1017-1	1991

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EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,301

Applicant(s)

DAVIS ET AL.

Examiner

Chongshan Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to Amendment filed on 28 February 2005. Claims 1-10 are pending in this Office Action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Castelli et al. (“Castelli”, US 6,122,628).

As per claim 1, Castelli discloses a computer-implemented method of incrementally updating precision and recall curves in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a list of their m nearest neighbors and corresponding similarity scores, wherein $m > k$ (Castelli, col. 11, lines 54-66, “let k be the desired number of nearest neighbors to a template in a database of N elements ... a user typically requests a number of returned results greater than k. Let n be the number of returned results greater than k ...”);

adding or deleting one or more original documents and their category assignments (Castelli, col. 15, lines 11-19, “if the k-nearest neighbor set (1009) is not empty at the beginning

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of step 1007, then the intra-cluster search logic, in step 1007 updates the k-nearest neighbor set when an element is found whose mismatch index δ^2 is smaller than the largest of the indexes currently associated with elements in the k-nearest neighbor set (1009). The k-nearest neighbor set can be updated by removing the element with largest mismatch index δ^2 from the k-nearest neighbor set (1009) and substituting the newly found element for it”);

identifying the documents influenced by the adding or deleting (Castelli, col. 15, line 3 – col. 16, line 67);

updating one or more category scores of the influenced documents (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories having updated category scores (Castelli, col. 11, line 65 – col. 12, line 67, precision = $E(c)/n$, recall = $E(c)/k$).

As per claim 2, Castelli discloses a computer-implemented method of incrementally updating precision and recall curves in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a list of their m nearest neighbors and corresponding similarity scores, wherein $m > k$ (Castelli, col. 11, lines 54-66);

adding or deleting one or more category assignments to one or more original documents (Castelli, col. 15, line 3 – col. 16, line 67);

updating category scores of the documents influenced by the adding or deleting of one or more category assignments, for at least the categories to which the category assignments were added or deleted (Castelli, col. 15, line 3 – col. 16, line 67); and

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computing precision and recall curves for the categories having updated category scores (Castelli, col. 11, line 65 – col. 12, line 67, $\text{precision} = E(c)/n$, $\text{recall} = E(c)/k$).

As per claim 3, Castelli discloses a computer-implemented method of incrementally adding category assignments to particular original documents in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

adding one or more category assignments for one or more particular original documents (Castelli, col. 15, line 3 – col. 16, line 67);

computing category scores for the particular original documents and a predetermined number of nearest neighbors of the particular original documents, for those categories to which the category assignments are added, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, $\text{precision} = E(c)/n$, $\text{recall} = E(c)/k$).

As per claim 4, Castelli discloses a computer-implemented method of incrementally adding one or more documents to a k nearest neighbor database, said database including original

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documents, categories, category assignments for the original documents,, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

adding one or more documents; calculating similarity scores between the added documents, and the added and original documents; modifying the retained first and second nearest neighbor lists for a predetermined number of nearest neighbors of the added documents; adding category assignments for the added documents; computing one or more category scores for the added documents and the predetermined number of nearest neighbors of the added documents, based on the retained and calculated similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, $\text{precision} = E(c)/n$, $\text{recall} = E(c)/k$).

As per claim 5, Castelli discloses a computer-implemented method of incrementally deleting category assignments from particular documents in a k nearest neighbor database, said database include original documents, category, category assignments for the original documents, and category scores for the original documents, the method including:

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retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

deleting or deleting one or more category assignments for one or more particular original documents; computing category scores for the particular original documents and a predetermined number of nearest neighbors of the particular original documents, for those categories to which the category assignments are deleted, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are deleted (Castelli, col. 11, line 65 - col. 12, line 67, $\text{precision} = E(c)/n$, $\text{recall} = E(c)/k$).

As per claim 6, Castelli discloses a computer-implemented method of incrementally deleting documents from a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

deleting one or more of the original documents and corresponding category assignments from the database; deleting the deleted documents from the retained first and second nearest neighbor lists for a predetermined number of nearest neighbors of the deleted documents; computing one or more category scores for a predetermined number of nearest neighbors of the deleted documents, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories in which the deleted documents had category assignments (Castelli, col. 11, line 65 - col. 12, line 67, $\text{precision} = E(c)/n$, $\text{recall} = E(c)/k$).

As per claim 7, Castelli discloses a computer-implemented method of incrementally adding category assignments to particular original documents in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

creating an influence list of original documents having a particular original document among their k nearest neighbors (Castelli, col. 11, lines 54-66);

adding one or more category assignments for one or more particular original documents; identifying influenced original documents from the influence list for the particular original documents to which the category assignments are added; computing category scores of the influenced original documents and of the particular original documents, for those categories to

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which the category assignments are added, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, $\text{precision} = E(c)/n$, $\text{recall} = E(c)/k$).

As per claim 8, Castelli discloses a computer-implemented method of incrementally adding one or more documents to a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14, line 19);

creating an influence list of those original documents having certain original documents among their k nearest neighbors (Castelli, col. 11, lines 54-66);

adding one or more documents to the database; calculating similarity scores between the added documents, and the added and original documents; updating the retained first list of k nearest neighbors to include the added documents; updating the influence list to include the added documents; adding category assignments for the added documents; computing one or more category scores of the added and original documents influenced by the category assignments, based on the retained and calculated similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

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computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision = $E(c)/n$, recall = $E(c)/k$).

As per claim 9, Castelli discloses a computer-implemented method of incrementally deleting category assignments from particular documents in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14, line 19);

creating an influence list of those original documents having certain original documents among their k nearest neighbors (Castelli, col. 11, lines 54-66);

deleting one or more category assignments for one or more particular original documents; identifying influenced original documents from the influence list for the particular original documents from which the category assignments are deleted; computing category scores of the influenced original documents and of the particular original documents for those categories from which the category assignments are deleted, based on the retained similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories from which the category assignments are deleted (Castelli, col. 11, line 65 - col. 12, line 67, precision = $E(c)/n$, recall = $E(c)/k$).

As per claim 10, Castelli discloses a computer-implemented method of incrementally deleting one or more documents to a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

creating an influence list of those original documents having certain original documents among their k nearest neighbors (Castelli, col. 4, line 55 - col. 5, line 11, col. 11, lines 54-66, col. 13, line 66 - col. 14, line 19);

deleting one or more documents from the database and corresponding category assignments; updating the retained first and second lists of m nearest neighbors to delete the deleted documents; updating the influence list to delete the deleted documents; computing one or more category scores of the original documents influenced by the deleted documents, based on the retained similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories in which the deleted documents had category assignments (Castelli, col. 11, line 65 - col. 12, line 67, precision = $E(c)/n$, recall = $E(c)/k$).

Response to Arguments

4. Applicant's arguments filed on 28 February 2005 have been fully considered but they are not persuasive.

5. In response to applicant's arguments, the recitation "a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents and category scores for the original documents" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (571) 272-4031.

The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen
May 11, 2005


JEAN M. CORRIELUS
PRIMARY EXAMINER